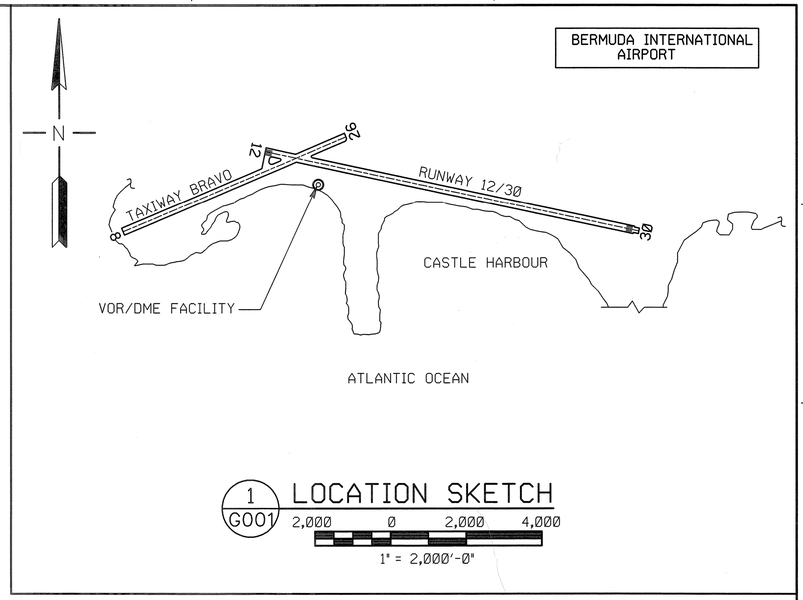

1 G001 LOCATION SKETCH

2,000 0 2,000 4,000

1" = 2,000'-0"

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL AVIATION ADMINISTRATION

VOR/DME FACILITY

COUNTERPOISE STRUCTURE REFURBISHMENT PROJECT
L. F. WADE INTERNATIONAL AIRPORT
ST. DAVID'S ISLAND, BERMUDA

INDEX OF DRAWINGS

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BDA-1201875-A001	SHEET 3	OF 12	SITE PLAN
BDA-1201875-S001	SHEET 4	OF 12	FRAMING PLAN AND DETAILS
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BDA-1201875-E006	SHEET 12	OF 12	RF BRIDGE PLAN

REFERENCE DRAWINGS

DRAWING NO.			TITLE
AEA-D-34330	SHEET 1	OF 11	TITLE SHEET AND DRAWING INDEX
AEA-D-34330	SHEET 2	OF 11	REMOVAL AND DEMOLITION
AEA-D-34330	SHEET 3	OF 11	SITE PLAN
AEA-D-34330	SHEET 4	OF 11	SITE SECTIONS AND DETAILS
AEA-D-34330	SHEET 5	OF 11	VOR MONITOR DETECTOR ANTENNAS - LAYOUT
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AEA-D-34330	SHEET 7	OF 11	EQUIPMENT BUILDING - PLAN
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REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS EASTERN SERVICE AREA

VOR

COUNTERPOISE STRUCTURE REFURBISHMENT
TITLE SHEET AND DRAWING INDEX

SAINT DAVID BERMUDA INT'L AIRPORT BM

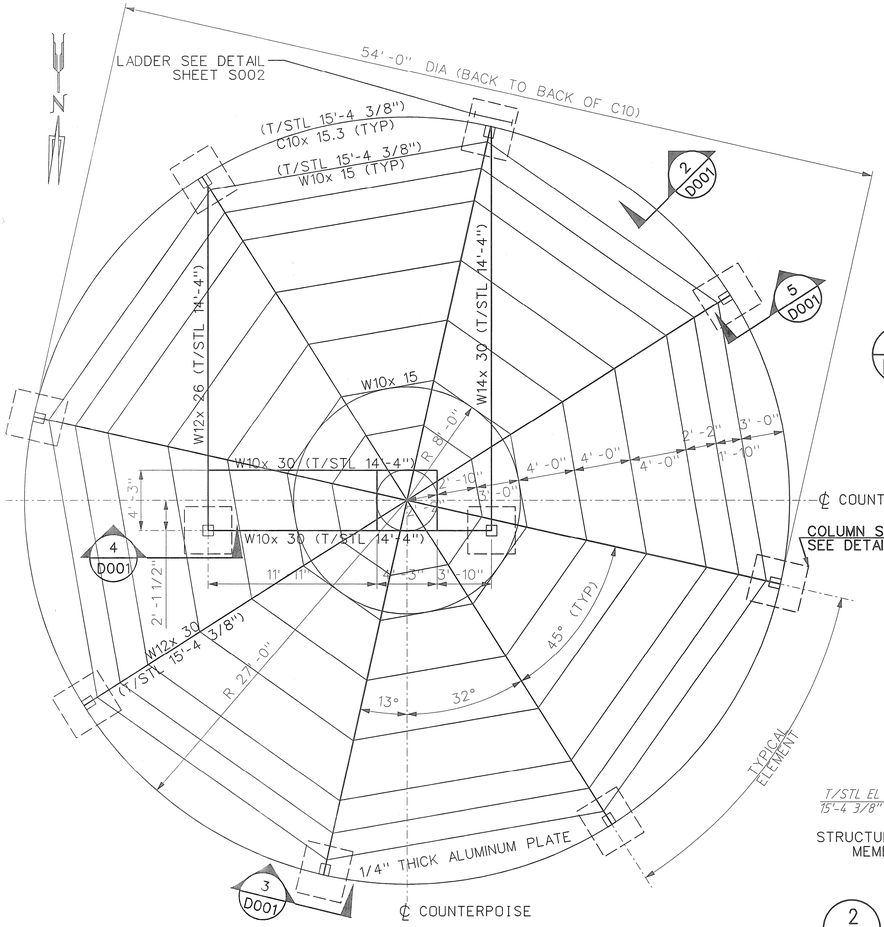
REVIEWED BY	SUBMITTED BY	APPROVED BY
	Mark Johnston	Manoj Bhatia
	PROJECT ENGINEER	MGR: ENGINEERING - CENTER A

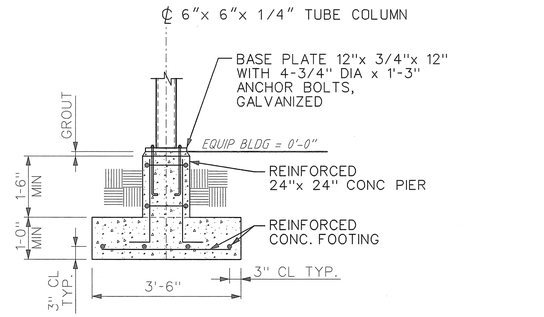
DESIGNED MJ | DRAWN LMC | CHECKED | ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE

DATE 07/17/2012 | JCN 1201875 | DRAWING NO BDA-1201875-G001 | REV

ISSUED FOR: CONSTRUCTION

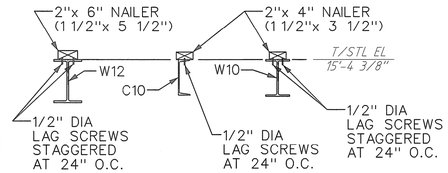
BDA-1201875-G001.dgn 12/6/2012 10:39:19 AM daniela ctr sifla





1 D001 TYPICAL COLUMN SUPPORT DETAIL

NOT TO SCALE

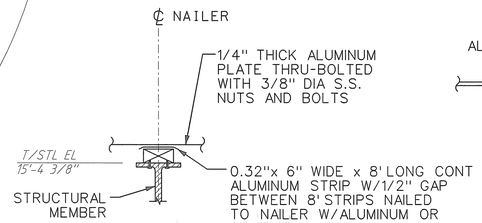


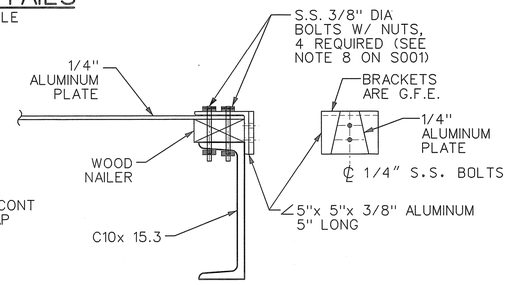
NOTES

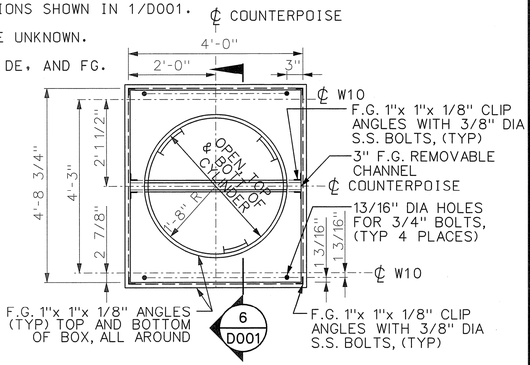
1. DEMOLITION SHALL NOT BEGIN BEFORE WRITTEN NOTIFICATION THAT THE FACILITY HAS BEEN TAKEN OUT OF SERVICE BY THE OWNER AND THAT POWER SOURCES HAVE BEEN LOCKED OUT AND TAGGED OUT.
2. CONTRACTOR SHALL REMOVE ALL ITEMS SUPPORTED BY THE STEEL EXCEPT ANTENNAS REMOVED BY OWNER.
3. OBSTRUCTION LIGHT SHALL BE REMOVED AND STORED FOR FUTURE RE-INSTALLATION.
4. TEEPEE SHALL BE REMOVED WITHOUT DAMAGE AND STORED AT AN OWNER DETERMINED LOCATION TO BE RE-INSTALLED. STORE THE SHELTER ON A CONTRACTOR SUPPLIED TEMPORARY PLATFORM. KEEP THE SHELTER LEVEL AND SECURE FROM TIPPING OVER.
5. ALL CABLES EXCEPT GROUND CABLES WILL BE DISCONNECTED AT EACH END BY THE OWNER.
6. CONTRACTOR WILL REMOVE AND DISPOSE OF THE CABLES BETWEEN THE POINTS DISCONNECTED.
7. REMOVE COMPLETELY AND DISCARD THE GROUNDING CABLES ATTACHED TO THE STEEL COLUMNS.
8. REMOVE ALL CONDUIT SUPPORTED BY THE STEEL.
9. REMOVE SIXTEEN (16) VOR MONITOR DETECTOR ANTENNAS (MDA) AND BRACKETS STORE FOR RE-INSTALLATION.
10. REMOVE AND STORE FOR RE-INSTALLATION THE RF BOX AND ALL JUNCTION BOXES.
11. REMOVE THE 1/4" ALUMINUM COUNTERPOISE PLATE WITH MINIMAL DAMAGE.
12. REMOVE THE COOLING DUCT BETWEEN THE FAN AND THE RF BOX.
13. REMOVE AND DISCARD ALL STRUCTURAL STEEL, WOOD NAILERS, AND 3/4" DIA SOLID ROD CROSS BRACING.
14. REMOVE AND STORE THE LADDER FOR RE-INSTALLATION.
15. REMOVE AND DISCARD THE CONCRETE FOUNDATIONS SHOWN IN 1/D001.
16. FOOTING DIMENSIONS AND REINFORCEMENT ARE UNKNOWN.
17. REMOVE 3/4" DIA. RODS IN PANELS AH, BC, DE, AND FG. (SEE DETAIL 4/S002)

NAILER DETAILS

NOT TO SCALE







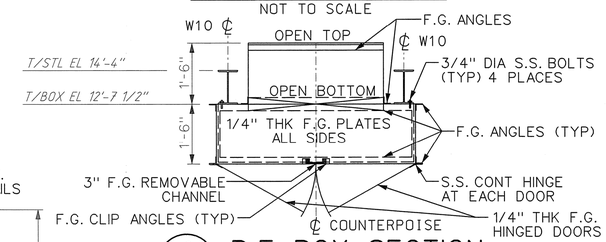
COUNTERPOISE FRAMING PLAN

4' 0 4' 8' 12'

SCALE: 3/16" = 1'-0"

PLAN OF R.F. BOX

NOT TO SCALE



6 D001 R.F. BOX SECTION

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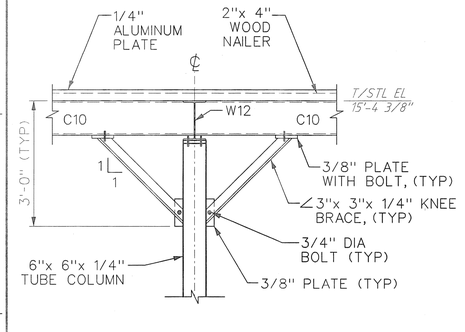
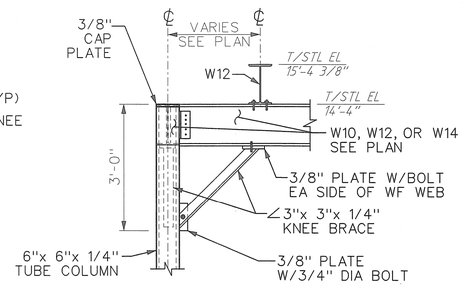
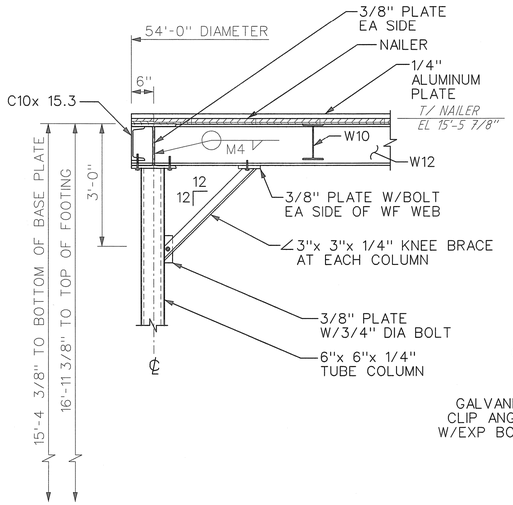
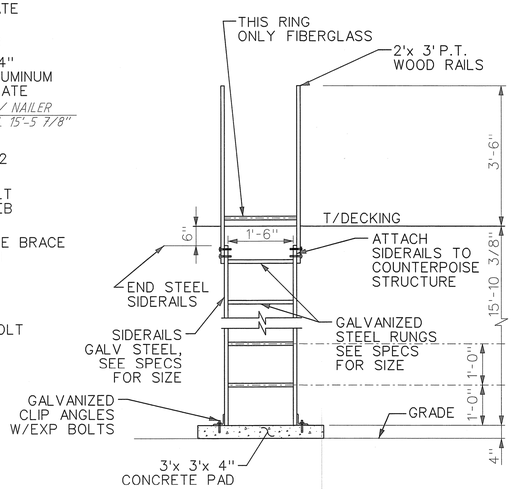




NOTE: ALL CONNECTIONS ARE BOLTED.





3 D001 TYPICAL SECTION — NOT TO SCALE

4 D001 TYPICAL SECTION — NOT TO SCALE

5 D001 TYPICAL SECTION — NOT TO SCALE

7 D001 LADDER DETAIL — NOT TO SCALE

2 D001 DETAIL OF VOR ANTENNA MOUNTING BRACKETS (TYP) — NOT TO SCALE

LOCATE BRACKETS AT COUNTERPOISE EDGE AT 22 1/2° INTERVALS, BEGINNING AT MAGNETIC NORTH AND AT 22.5°, 45°, 67.5° 90°, 112.5°, 135°, 157.5°, 180°, 202.5°, 225°, 247.5°, 270°, 292.5°, 315°, 337.5°

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS — EASTERN SERVICE AREA

VOR
COUNTERPOISE STRUCTURE REFURBISHMENT REMOVAL AND DEMOLITION

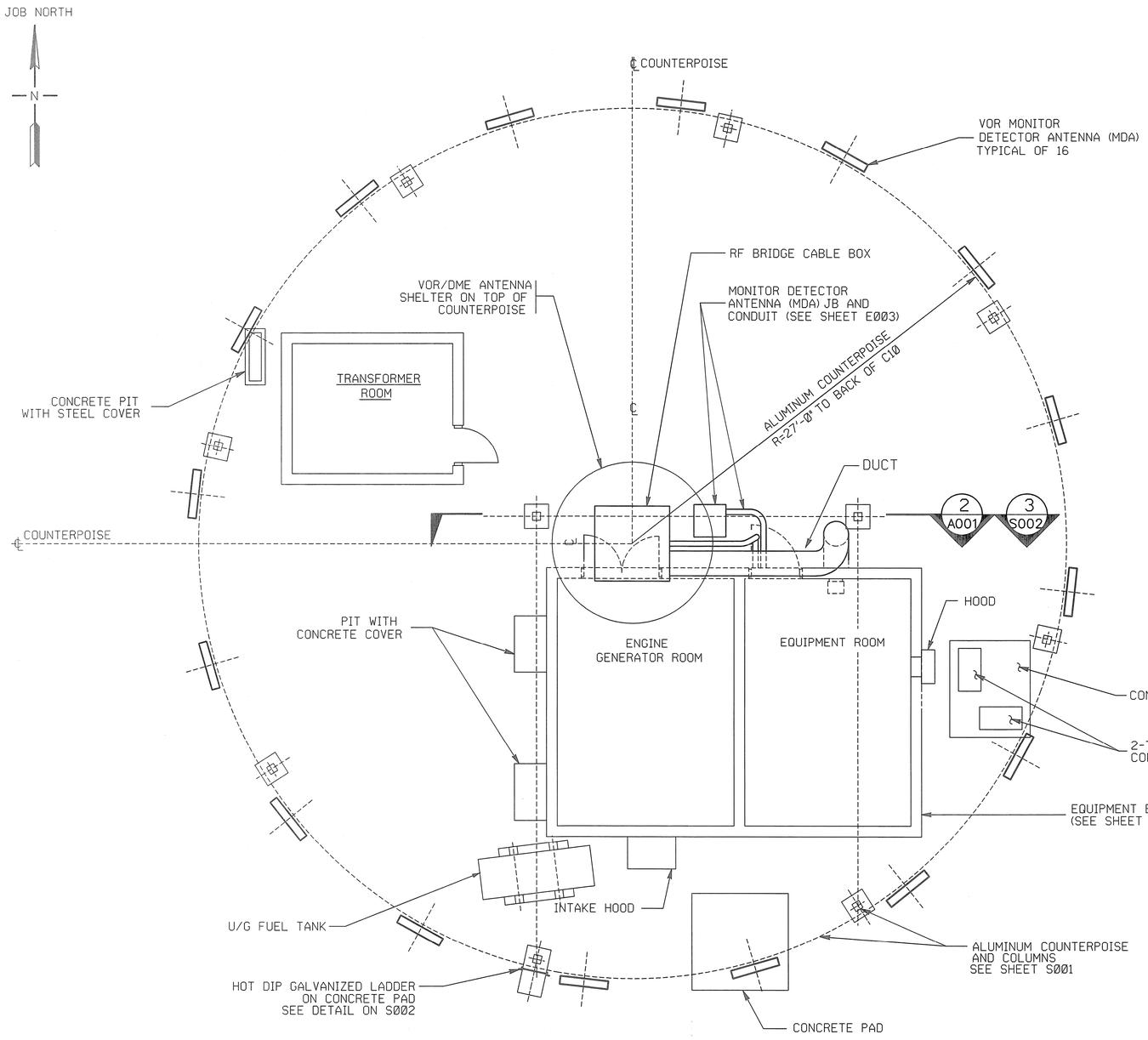
SAINT DAVID — BERMUDA INT'L AIRPORT — BM

REVIEWED BY	SUBMITTED BY	APPROVED BY
	Mark Johnston, PROJECT ENGINEER	Mahaf Bhalla, MGR: ENGINEERING - CENTER A

DESIGNED	MJ	ISSUED BY	DATE	07/17/2012	JCN	1201875
DRAWN	LMC	ENGINEERING SERVICES INFRASTRUCTURE	DRAWING NO	BDA-1201875-D001		REV
CHECKED						

ISSUED FOR: CONSTRUCTION

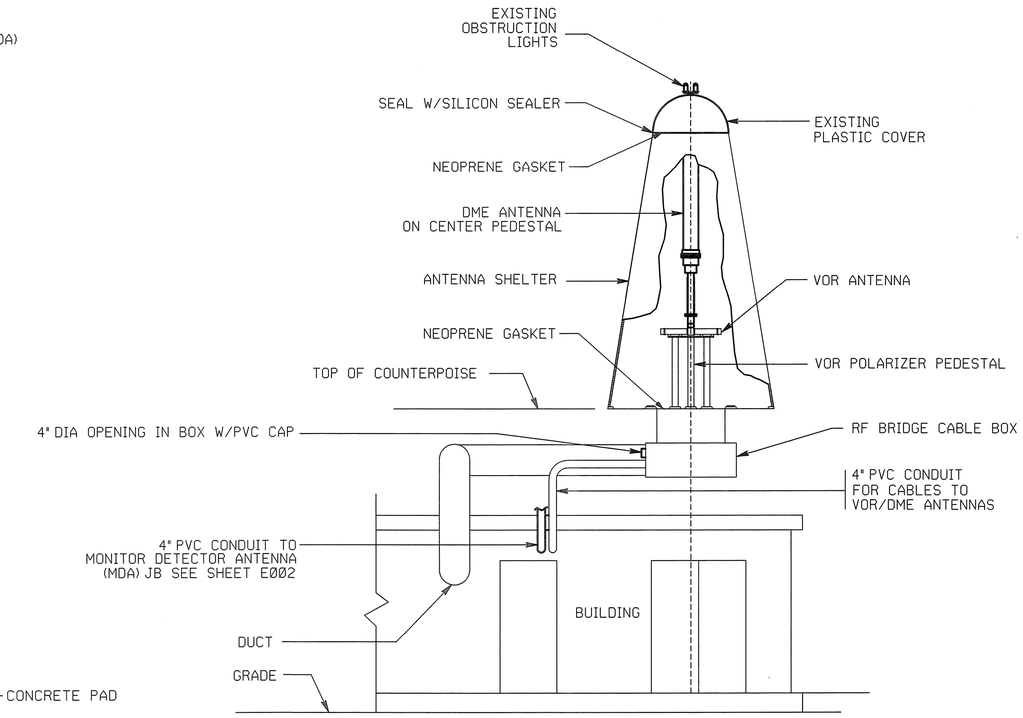
BDA-1201875-D001.dgn 12/6/2012 10:41:06 AM daniels ctr sfito



1 A001 SITE PLAN

4 0 4 8

1/4" = 1'-0"



2 A001 VIEW

NOT TO SCALE

NOTES

1. VOR MONITOR DETECTOR ANTENNAS TAKEN FROM STORAGE AND RE-INSTALLED IN THE ORIGINAL POSITIONS.
2. ALL MATERIAL AND INSTALLATION FOR THE PROJECT IS TO BE IN ACCORDANCE WITH THESE DRAWINGS THE STATEMENT OF WORK - GENERAL AND SPECIAL PROVISIONS, TECHNICAL SPECIFICATION AND APPENDICES.
3. GALVANIZED LADDER TO BE REMOVED FROM STORAGE AND RE-INSTALLED IN ITS ORIGINAL POSITION. USE NEW CLIPS AND EXPANSION BOLTS.
4. NEOPRENE GASKET IS 3/8" X 2 1/2" W RUBATEX R425-N HIGH DENSITY NEOPRENE WITH PRESSURE SENSITIVE ADHESIVE (PSA) ON ONE SIDE.
5. REPLACE NEOPRENE GASKETS AND SEAL EXTERIOR JOINTS. SEALANT TO BE COMPATABLE WITH GASKET MATERIAL.
6. KEEP CRANE, OUTRIGGERS, AND ALL HEAVY EQUIPMENT OFF OF UNDERGROUND TANK AND LINES.

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS **EASTERN SERVICE AREA**

VOR
COUNTERPOISE STRUCTURE REFURBISHMENT SITE PLAN

SAINT DAVID BERMUDA INT'L AIRPORT BM

REVIEWED BY	SUBMITTED BY Mark Johnston PROJECT ENGINEER		APPROVED BY Manoj Bhatia MGR: ENGINEERING - CENTER A
	DESIGNED MJ DRAWN LMC CHECKED	ISSUED BY ENGINEERING SERVICES INFRASTRUCTURE	DATE 07/17/2012 JCN 1201875 DRAWING NO BDA-1201875-A001 REV

ISSUED FOR: CONSTRUCTION

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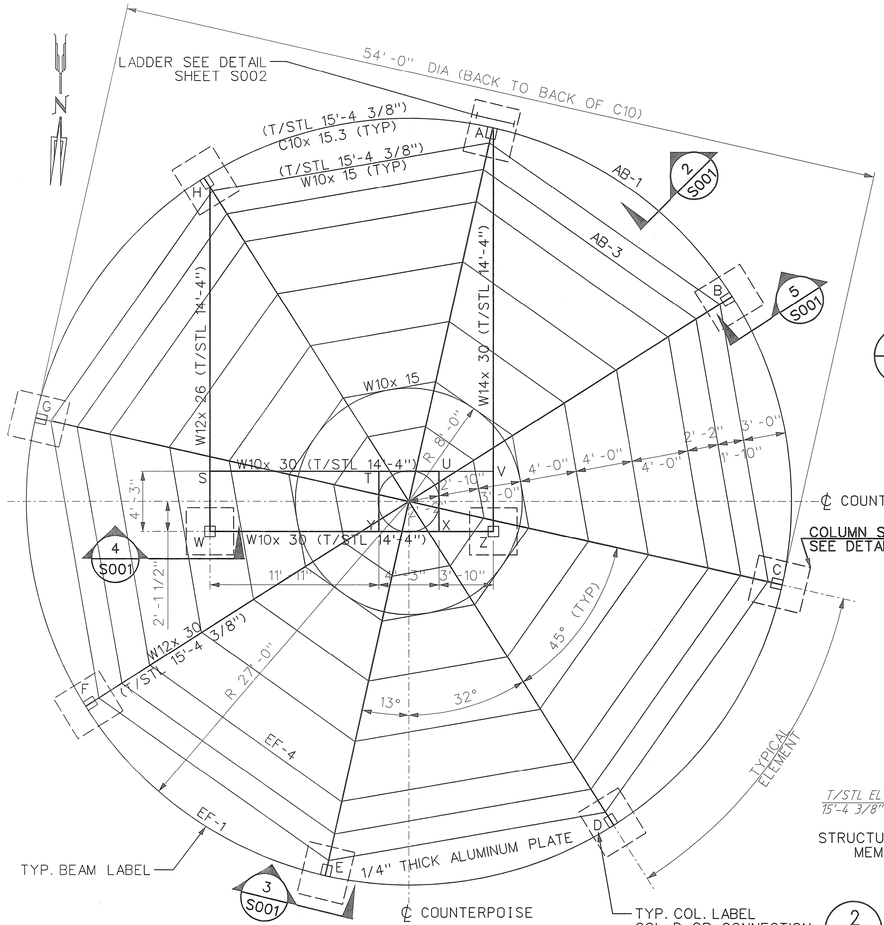
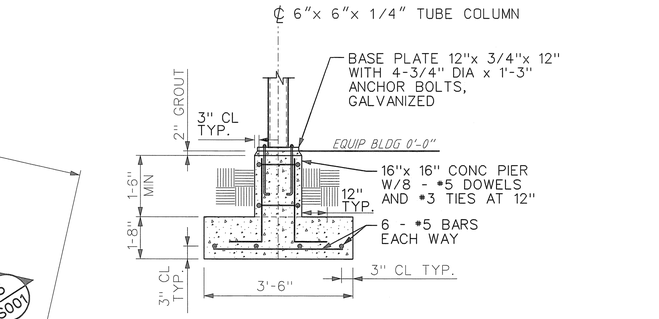


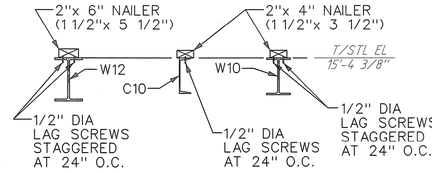
COUNTERPOISE FRAMING PLAN

NOT TO SCALE



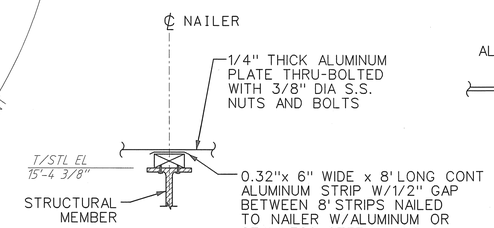
1 S001 TYPICAL COLUMN SUPPORT DETAIL

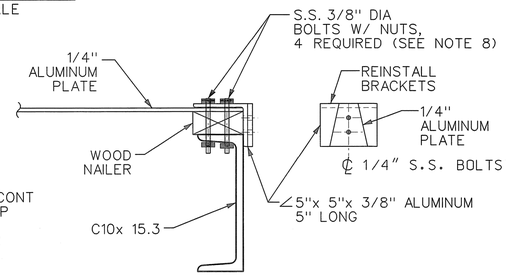
NOT TO SCALE



NAILER DETAILS

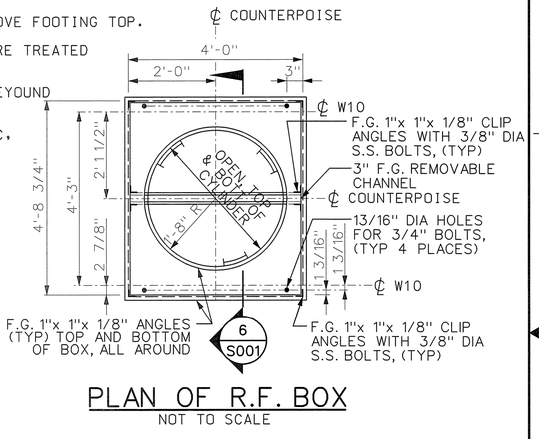
NOT TO SCALE





NOTES

1. DESIGN LOADS: WIND VELOCITY = 127 M.P.H.
   WIND PRESSURE = 41 P.S.F. (0′ TO 30′) = 43 P.S.F. (31′ TO 40′)
2. SOIL BEARING PRESSURE IS 2000 P.S.F.
3. ALL STRUCTURAL STEEL TO BE ASTM A36, BOLTED CONNECTIONS TO USE 3/4 DIA FASTENERS ASTM A325.
4. ALL STRUCTURAL STEEL AND CONNECTORS TO BE HOT-DIP GALVANIZED AFTER FABRICATION.
5. ALL CONCRETE, 3000 P.S.I., 28 DAY STRENGTH.
6. COUNTERPOISE IS TO BE BONDED ELECTRICALLY.-WELD INDIVIDUAL SHEETS TO PROVIDE BOND.
7. FLOOR OF EQUIPMENT BUILDING = DATUM EL 0′-0″.
8. COUNTERPOISE IS 1/4″ THICK ALUMINUM PLATE, CONTINUOUSLY WELDED, ALL SIDES ARE TO BE THRU-BOLTED THRU NAILER AND STRUCTURAL MEMBER FLANGES W/3/8″ DIA S.S. NUTS/BOLTS. NUT/BOLT FASTENERS SPACED AT = 18″-24″ AT ALL STRUCTURAL STEEL MEMBERS ON COUNTERPOISE TOP.
9. REINSTALL VOR ANTENNA MOUNTING BRACKETS AND ANTENNAS
10. REMOVE TEEPEE FROM STORAGE AND RE-INSTALL USING NEW BOLTS, WASHERS, AND NUTS. PREPARE ANY DAMAGED SURFACES OF FIBERGLASS CONE BY USING HAND SANDER. AFTER SANDING, POWER WASH THE CONE WITH WATER. CONTRACTOR TO SUPPLY HIS OWN WATER. FOLLOWING POWER WASHING, WIPE DOWN THE SURFACES WITH SOLVENT. BEFORE PAINTING, REMOVE AND REPLACE ANY DETERIORATED AREAS OF JOINT SEALANT/CAULKING ON THE CONE. PAINT MUST NOT HAVE METAL PIGMENT SUCH AS ALUMINUM, BRONSE, OR LEAD; THE ONLY PIGMENT TO BE USED IS TITANIUM DIOXSIDE (WHITE). PAINT SHALL BE SHERWIN WILLIAMS' TILE CLAD EPOXY PAINT OR GLIDDEN'S GLID-THANE II ACRYLIC POLYURETHANE COATING.
11. REMOVE LADDER FROM STORAGE AND INSTALL AT FORMER LOCATION.
12. DOWELS EXTEND 12″ INTO FOOTING AND 14″ ABOVE FOOTING TOP.
13. ALL WOOD SHALL BE FULL PENETRATION PRESSURE TREATED (P.T.)
14. AT LEAST THREE BOLT THREADS MUST EXTEND BEYOUND THE OUTSIDE FACE OF NUT.
15. INSTALL NEW 3/4″ DIA RODS IN PANELS AH, BC, DE, AND FG. (SEE DETAIL 4/S002)



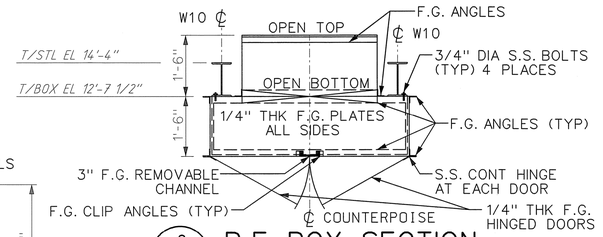
PLAN OF R.F. BOX

NOT TO SCALE

2 S001 DETAIL OF VOR ANTENNA MOUNTING BRACKETS (TYP)

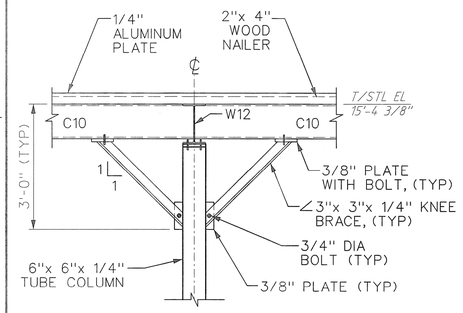
NOT TO SCALE

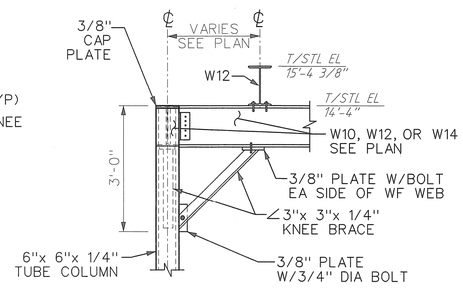
LOCATE BRACKETS AT COUNTERPOISE EDGE AT 22 1/2° INTERVALS, BEGINNING AT MAGNETIC NORTH AND AT 22.5°, 45°, 67.5° 90°, 112.5°, 135°, 157.5°, 180°, 202.5°, 225°, 247.5°, 270°, 292.5°, 315°, 337.5°



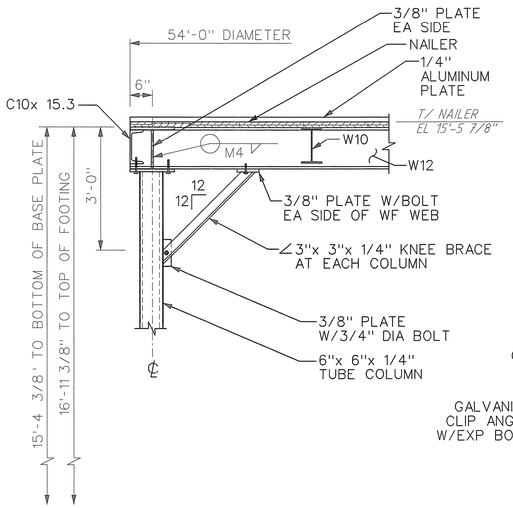
6 S001 R.F. BOX SECTION

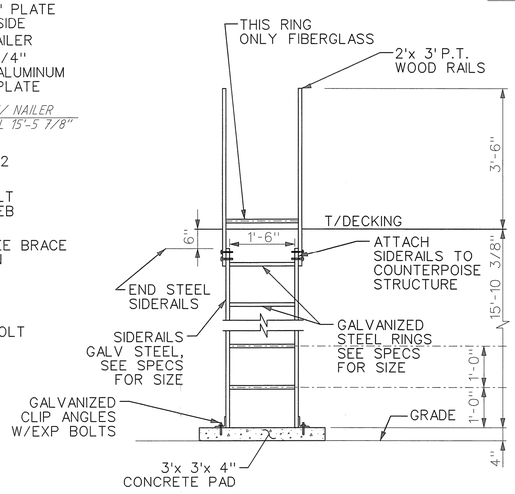
NOT TO SCALE





NOTE: ALL CONNECTIONS ARE BOLTED.





3 S001 TYPICAL SECTION

NOT TO SCALE

4 S001 TYPICAL SECTION

NOT TO SCALE

5 S001 TYPICAL SECTION

NOT TO SCALE

7 S001 LADDER DETAIL

NOT TO SCALE

REV.	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS **EASTERN SERVICE AREA**

VOR
COUNTERPOISE STRUCTURE REFURBISHMENT FRAMING PLAN AND DETAILS

SAINT DAVID BERMUDA INT'L AIRPORT BM

REVIEWED BY	SUBMITTED BY: Mark Johnston, PROJECT ENGINEER	APPROVED BY: Manoj Bhatia, MGR: ENGINEERING - CENTER A	
	DESIGNED MJ	ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE	DATE 07/17/2012 JCN 1201875
	DRAWN LMC		DRAWING NO BDA-1201875-S001 REV
	CHECKED		

ISSUED FOR: CONSTRUCTION

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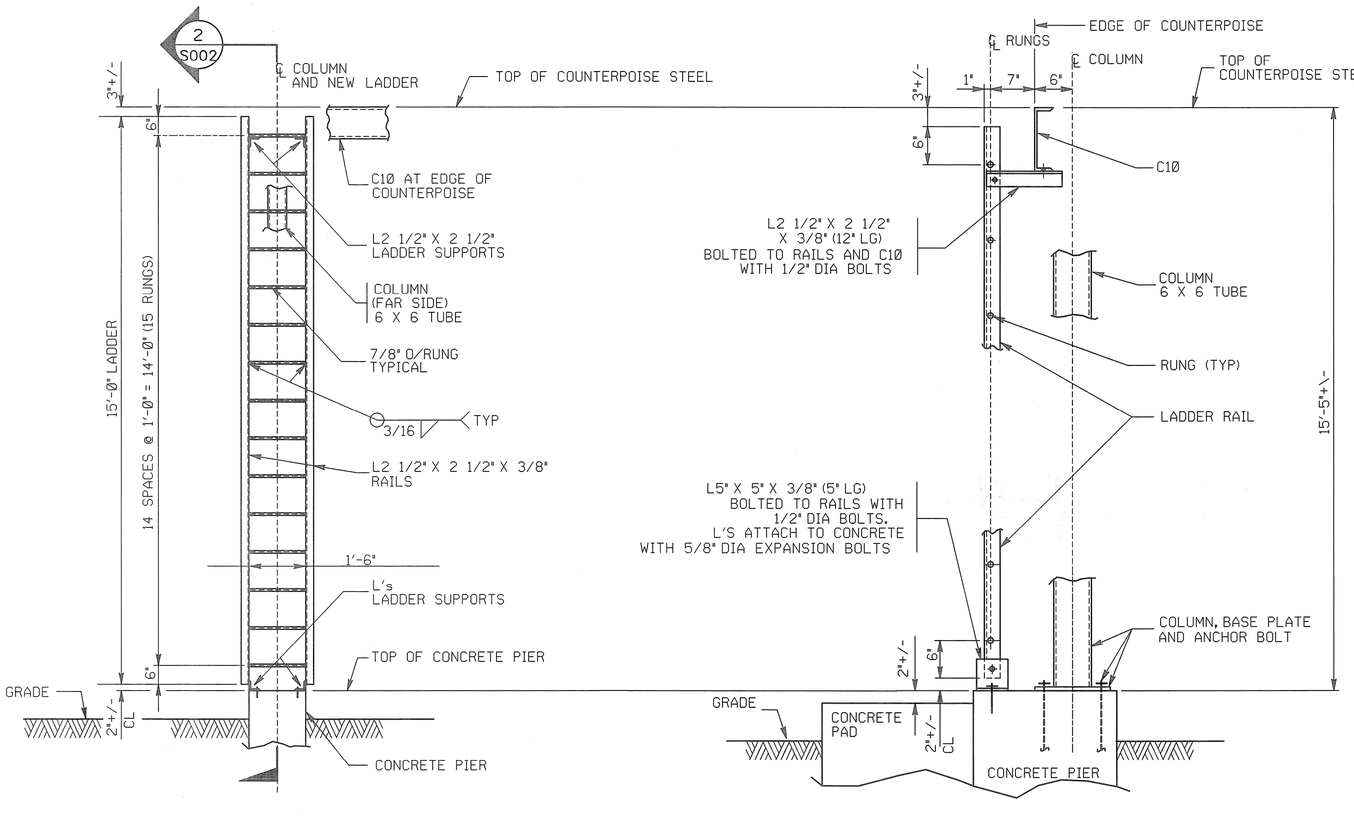


1 S002 LADDER ELEVATION FRONT VIEW

SCALE: 1/2" = 1'-0"

2 S002 LADDER SECTION

SCALE: 1/2" = 1'-0"

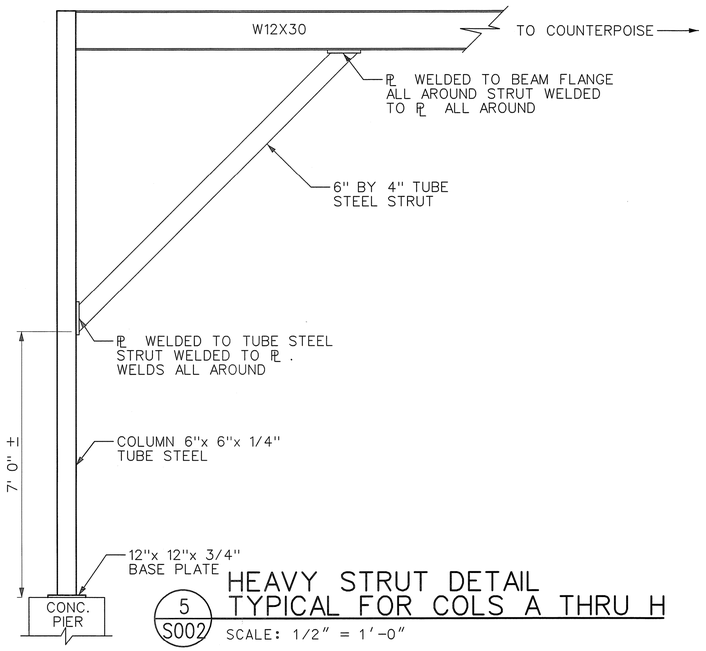
NOTES

1. EXISTING LADDER TO BE RE-INSTALLED IN ORIGINAL LOCATION SEE SHEET A001 AND S002.
2. ALL MISC STEEL MATERIAL, DETAILING, FABRICATION AND INSTALLATION IS IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS, DIVISON 5.
3. UON ALL STEEL IS MULTILAYER HOT-DIP GALVANIZED AS PER ASTM A123.
4. UON ALL BOLTS ARE HOT-DIP GALVANIZED AS PER ASTM A153.
5. REUSE EXISTING CONCRETE PAD SHOWN IN 2/S002.
6. REPLACE EXPANSION MATERIAL BETWEEN CONCRETE PIER AND CONCRETE PAD IF SPACE PERMITS.
7. REPLACE ALL DUCT SUPPORTS AND CONDUIT SUPPORTS WITH GALVANIZED STEEL SUPPORTS.
8. HEAVY STRUTS ARE ON COLS. A THRU H

LEGEND

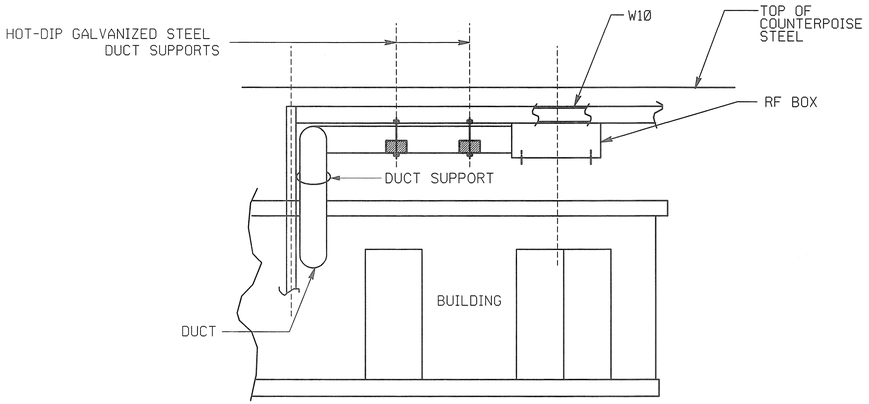
UON - UNLESS OTHERWISE NOTED

SS - STAINLESS STEEL



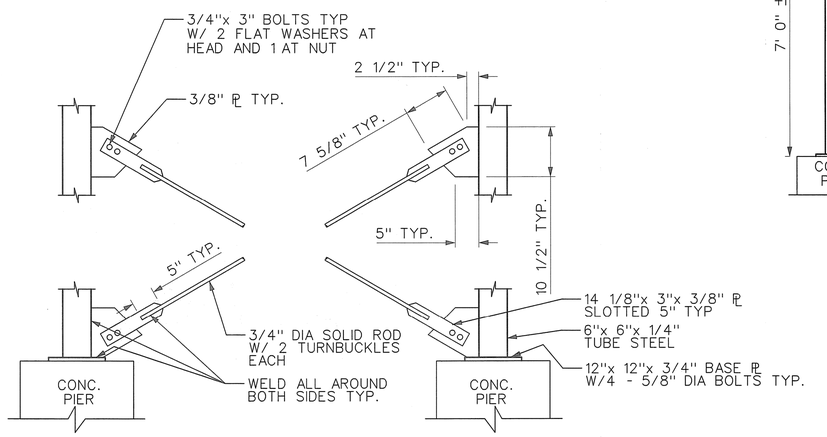
5 S002 HEAVY STRUT DETAIL TYPICAL FOR COLS A THRU H

SCALE: 1/2" = 1'-0"



3 S002 ELEVATION VIEW

SCALE: 1/4" = 1'-0"



4 S002 DIAGONAL BRACING BAYS AH, BC, DE, FG

NOT TO SCALE

4' 0 4' 8'

SCALE: 1/4" = 1'-0"

1' 0 1' 2' 5'

SCALE: 1/2" = 1'-0"

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS **EASTERN SERVICE AREA**

VOR

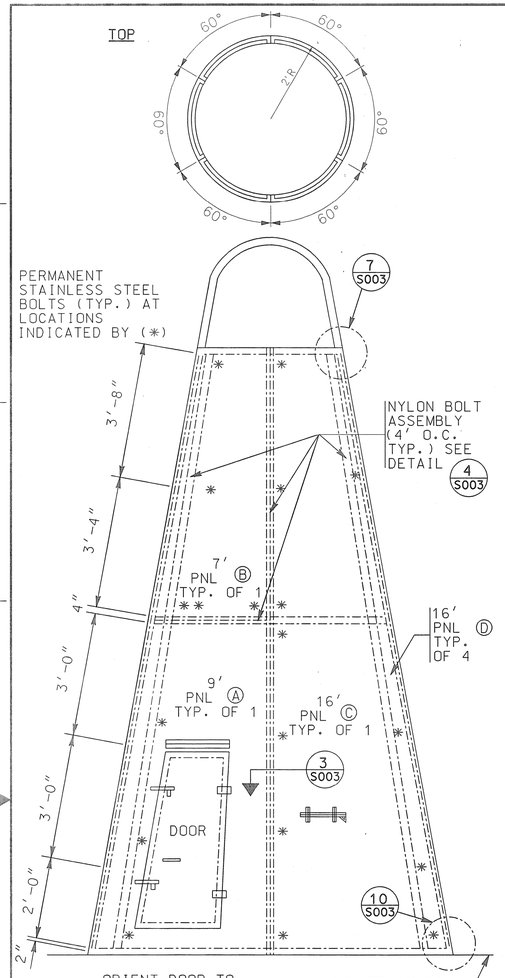
COUNTERPOISE STRUCTURE REFURBISHMENT SITE SECTIONS AND DETAILS

SAINT DAVID BERMUDA INT'L AIRPORT BM

REVIEWED BY	SUBMITTED BY: Mark Johnston PROJECT ENGINEER	APPROVED BY: Manoj Bhatia MGR: ENGINEERING - CENTER A
DESIGNED MJ DRAWN LMC CHECKED	ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE	DATE 07/17/2012 JCN 1201875 DRAWING NO BDA-1201875-S002 REV

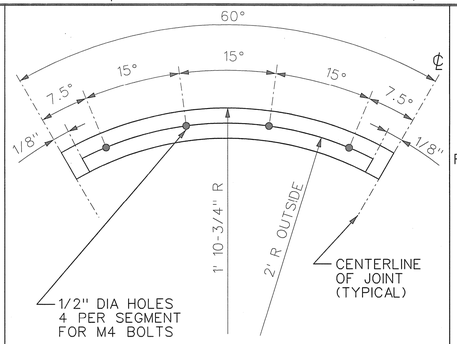
ISSUED FOR: CONSTRUCTION

BDA-1201875-S002.dgn 12/6/2012 10:38:49 AM daniela.ctr.sitka



NOT TO SCALE

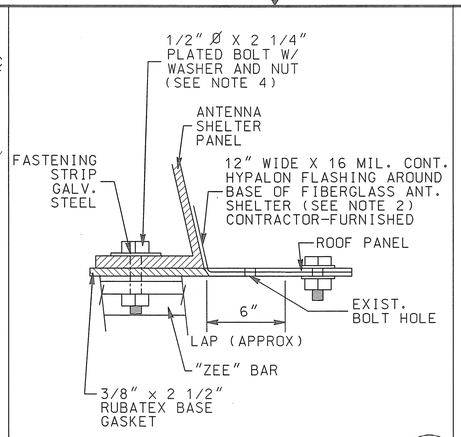
ANTENNA SHELTER ASSEMBLY — 8 S003



DETAIL – TOP FLANGE

NOT TO SCALE

TOP FLANGE FIXTURE-CONNECTION — 11 S003

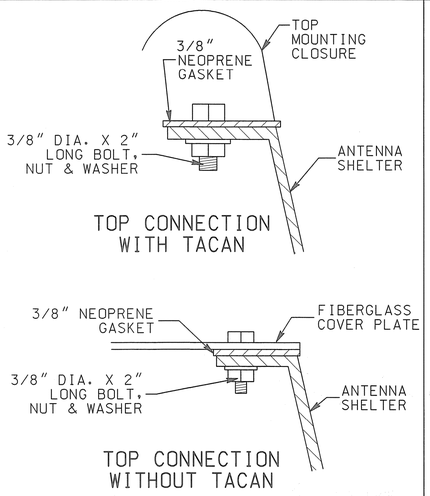


NOT TO SCALE

ANTENNA SHELTER CONNECTION — 10 S003

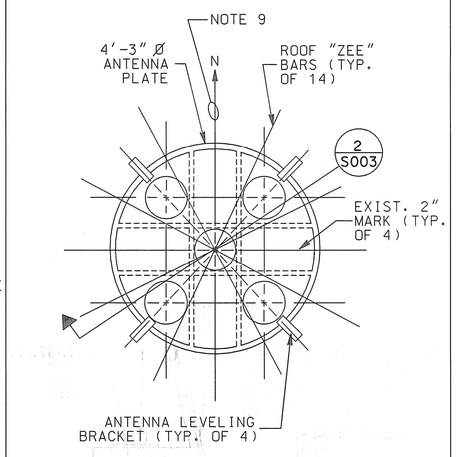
NOTES

1. IF THE SHELTER IS DISASSEMBLED, IT SHALL BE RE-ASSEMBLED USING ALL NEW FASTENERS OF THE KINDS SPECIFIED. ASSEMBLE FIBERGLASS ANTENNA SHELTER WITH CONTRACTOR FURNISHED NEW NEOPRENE GASKETS AND NYLON WASHERS USING PERMANENT STAINLESS STEEL BOLTS AS SHOWN AND TEMPORARY MACHINE BOLTS AT APPROXIMATELY 12" CENTERS. DRAW BOLTS UP UNIFORMLY UNTIL SHELTER SECTION FLANGES ARE COMPLETELY TIGHT THEN REPLACE TEMPORARY BOLTS CONSECUTIVELY WITH NYLON BOLTS.
2. IF THE SHELTER IS REMOVED AND REPLACED AS SINGLE UNIT, ANY BROKEN, CORRODED, OR DAMAGED FASTENERS SHALL BE REPLACED WITH CONTRACTOR FURNISHED, LIKE FASTENERS.
3. REPAIR AND REPRINT DAMAGED TEEPEE SURFACES (SEE NOTE 10, S001).
4. REPLACE BASE AND CAP GASKETS (SEE NOTES 4 AND 5, A001) IF TEEPEE REMOVED AND REPLACED AS ONE PIECE. OTHERWISE, REPLACE ALL GASKETS.
5. ALIGN FIBERGLASS ANTENNA SHELTER ON CENTER OF VOR COUNTERPOISE. BOLT TO COUNTERPOISE FRAME USING CONTRACTOR FURNISHED 3/8" STAINLESS STEEL BOLTS WITH NUTS AND NYLON WASHERS. INSTALL FASTENERS THROUGH NAILER AND SUPPORTING STRUCTURAL MEMBER FLANGES. USE EXISTING HOLES IN SHELTER FLANGE FOR BOLTING TO THE SUPPORTING STRUCTURAL MEMBERS.
6. RE-INSTALL ORIGINAL ANTENNA PLATE USING LEVELING BRACKETS AND "Z" BARS. ATTACH THE LEVELING BRACKETS TO THE THE ANTENNA PLATE USING CONTRACTOR SUPPLIED 3/8" DIA STAINLESS STEEL BOLTS, WASHERS, AND NUTS. CONTRACTOR TO LEVEL ANTENNA PLATE LEAVING AT LEAST 2" OF THREADS ABOVE EACH TOP LEVELING NUT. BOLTS, WASHERS & NUTS SHALL BE STAINLESS STEEL.
7. ALL MATERIALS TO BE CONTRACTOR FURNISHED UNLESS NOTED OTHERWISE.



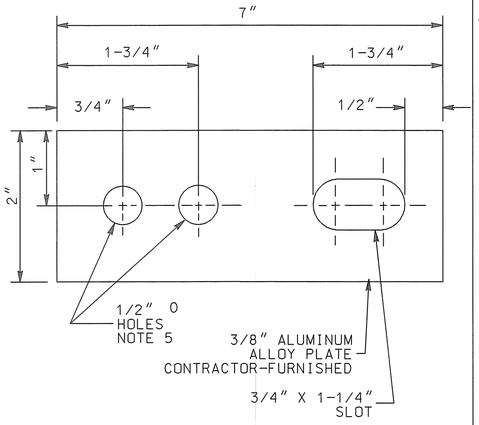
NOT TO SCALE

SHELTER TOP ASSEMBLY — 7 S003



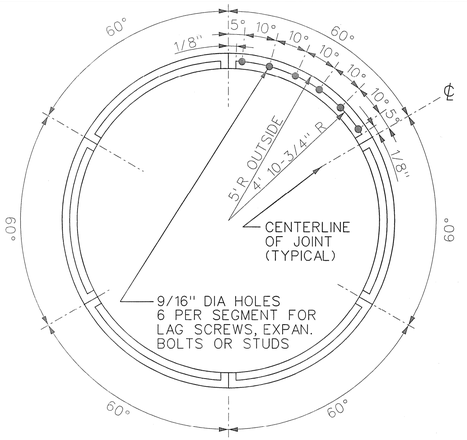
NOT TO SCALE

ANTENNA PLATE – VIEW — 6 S003



NOT TO SCALE

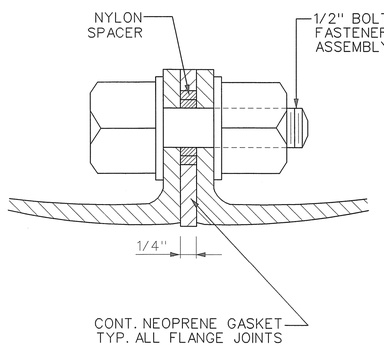
LEVELING BRACKET PLATE — 5 S003



DETAIL – BOTTOM FLANGE

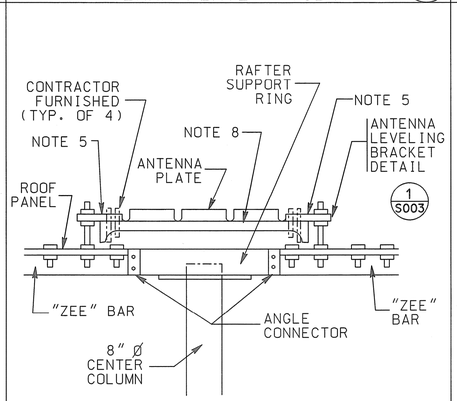
NOT TO SCALE

BOTTOM OF ANTENNA SHELTER — 4 S003



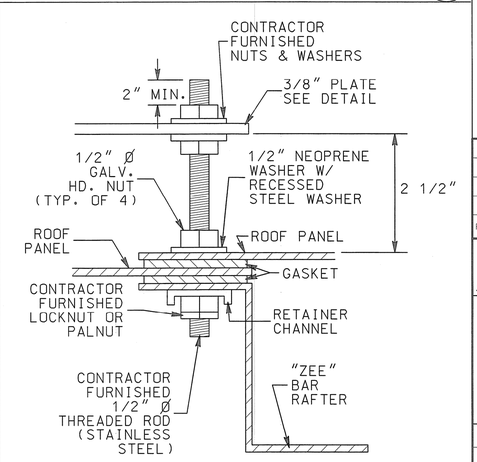
NOT TO SCALE

TYP. PANEL CONNECTION — 3 S003



NOT TO SCALE

ANTENNA PLATE SECTION — 2 S003



NOT TO SCALE

LEVELING BRACKET CONNECTION — 1 S003

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
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ATO - TECHNICAL OPERATIONS — **EASTERN SERVICE AREA**

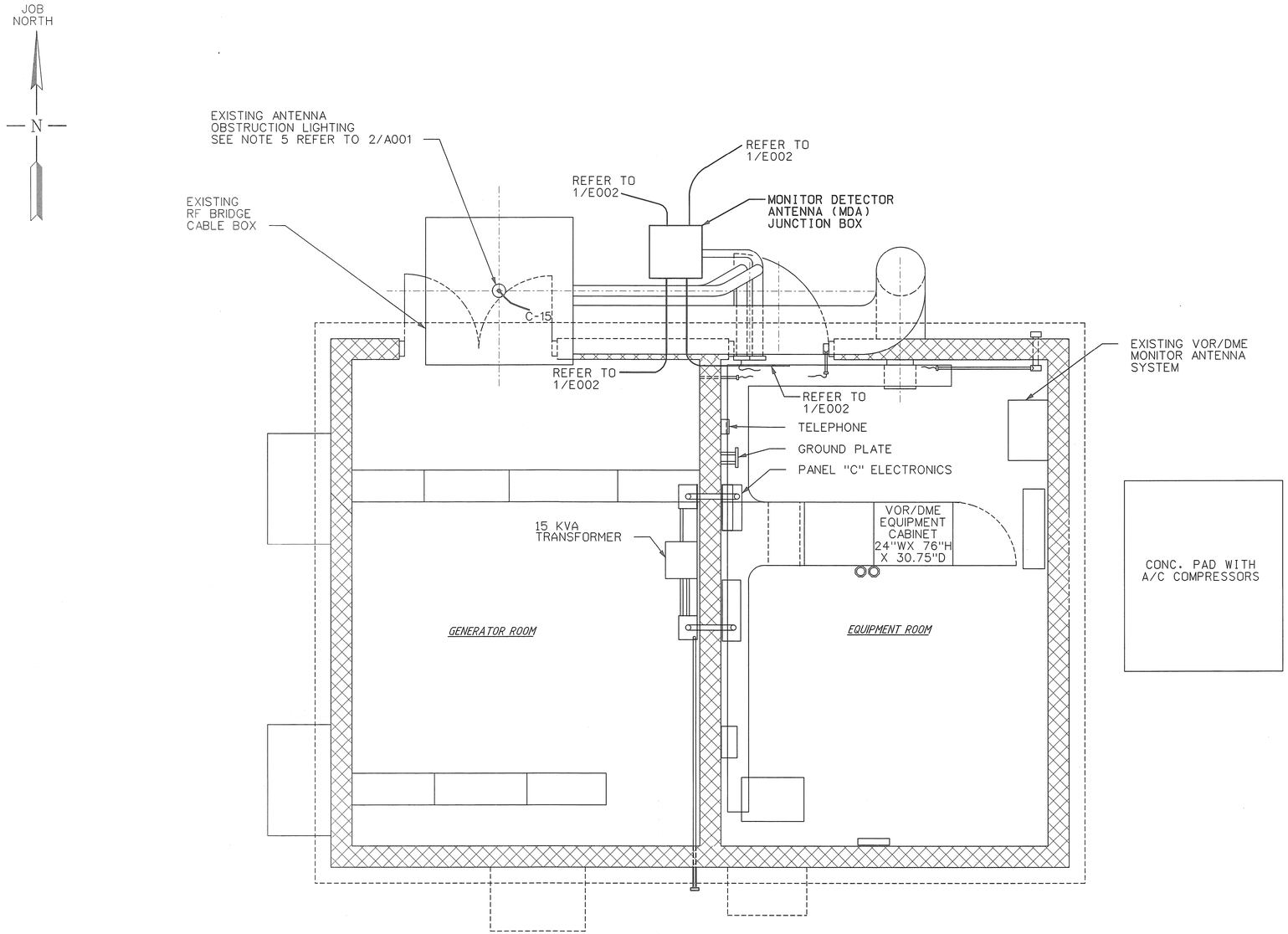
VOR
COUNTERPOISE STRUCTURE REFURBISHMENT FIBERGLASS ANTENNA SHELTER AND ANTENNA PLATE DETAILS

SAINT DAVID — BERMUDA INT'L AIRPORT — BM

REVIEWED BY	SUBMITTED BY: Mark Johnston, PROJECT ENGINEER	APPROVED BY: Manoj Bhatia, MGR: ENGINEERING - CENTER A	
	DESIGNED: MJ	ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE	DATE: 07/17/2012
	DRAWN: LMC		DRAWING NO: BDA-1201875-S003
	CHECKED		JCN: 1201875 REV:

ISSUED FOR: CONSTRUCTION

BDA-1201875-S003.dgn 12/6/2012 10:38:34 AM daniela ctr sfito



1 E001 PLAN

1' 0 1' 2' 5'

SCALE: 1/2" = 1'-0"

NOTES

1. WORK INSIDE BUILDING LIMITED TO CABLE PULLING.
2. FOR EQUIPMENT BUILDING-WALL ELEVATIONS, SEE SHEET E004.
3. FOR ADDITIONAL EQUIPMENT ROOM INFORMATION, SEE "CABLE TRAY AND EQUIPMENT RACK LAYOUT" ON SHEET E005.
4. ROUTE 2-1/C #12 IN EXISTING WIREWAY AND/OR CABLETRAY FROM ANTENNA OBSTRUCTION LIGHT TO PANEL "C" TERMINATE CONDUCTORS IN EXSITING 15A BREAKER SEE 8/S003 AND 2/A001 FOR DIMENSIONS.
5. ALL (16) RG-223 CABLES SHALL TERMINATE IN VOR/DME MONITOR ANTENNA SYSTEM. TERMINATION BY OTHERS.
6. 1/4" HELIAX TRANSMISSION CABLE PULLED AND TERMINATED BY OTHERS.

LEGEND

GND - GROUND
BC - BARE COPPER
JB - JUNCTION BOX
UON - UNLESS OTHERWISE NOTED

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS **EASTERN SERVICE AREA**

VOR

COUNTERPOISE STRUCTURE REFURBISHMENT EQUIPMENT BUILDING - PLAN

SAINT DAVID BERMUDA INT'L AIRPORT BM

REVIEWED BY	SUBMITTED BY Mark Johnston	APPROVED BY Manoj Bhatia
	PROJECT ENGINEER	MGR: ENGINEERING - CENTER A
DESIGNED MJ	ISSUED BY ENGINEERING SERVICES INFRASTRUCTURE	DATE 07/17/2012 JCN 1201875
DRAWN LMC		DRAWING NO BDA-1201875-E001 REV
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ISSUED FOR: CONSTRUCTION

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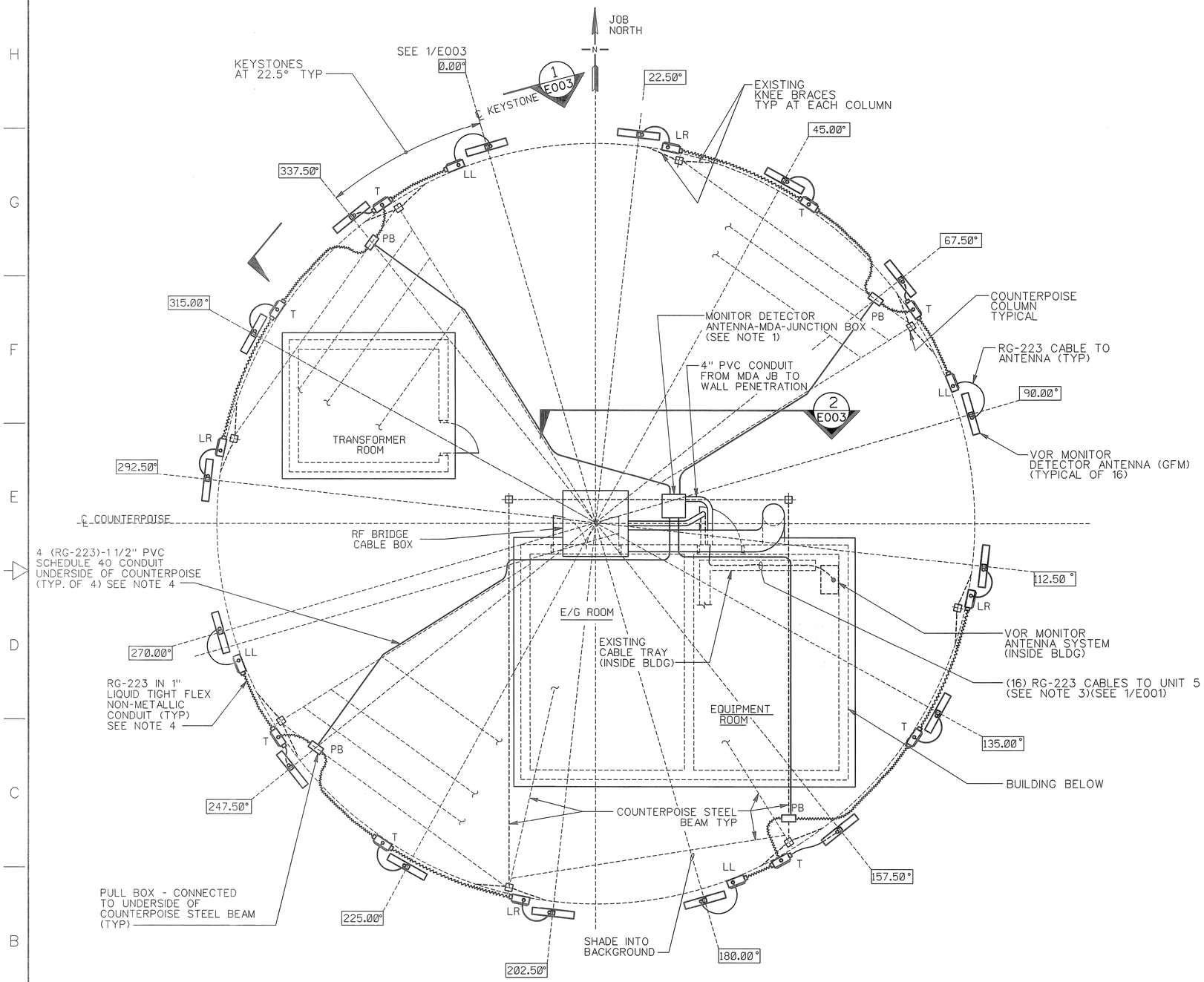

1 E002 PLAN

4 0 4 8

1/4" = 1'-0"

NOTES

1. MATERIAL
   CONDUIT : RIGID SCH 80 PVC EXCEPT POWER CONDUIT WHICH IS RGS.
   CONDULETS : RIGID PVC SCHEDULE 80 CONDUIT BODIES
   LR - CONDULET OUTLET BODY TYPE LR - CARLON No E985F
   LL - CONDULET OUTLET BODY TYPE LL - CARLON No E984F
   T - CONDULET OUTLET BODY TYPE T - CARLON No E983F
   PB - PULLBOX: NEMA 4X FIBERGLASS - HOFFMAN No A-645JFG
   MDA J.B. - JUNCTION BOX: NEMA 4X FIBERGLASS - 20"X20"X12" - HOFFMAN No A-20H2012GQRLP
   THE FITTINGS USED WITH THE FLEXIBLE CONDUIT SYSTEM ARE NONMETALLIC

2. ALL CONDUIT TERMINATIONS IN JUNCTION BOXES SHALL HAVE A THREADED FITTING WITH WATERTIGHT HUB AND LOCKNUT. CONDUITS SHALL HAVE A MINIMUM BEND RADIUS OF 8". EACH CONDUIT SHALL BE A SEALING TYPE BUSHING AT THE PULL/JUNCTION BOXES. BUSHING SHALL BE OZ/GEDNEY, TYPE GRK OR EQUAL.

3. OWNER WILL INSTALL NEW ALL (16) RG-223 CABLES FSJ1 USING TED CONNECTORS, ONE FROM EACH VOR MONITOR DETECTOR ANTENNA TO THE VOR MONITOR ANTENNA SYSTEM (UNIT 5 - INSIDE THE BUILDING EQUIPMENT ROOM). ALL ARE OF EQUAL LENGTH. (CABLES ARE ALSO CUT TO SAME "ELECTRICAL" LENGTH- WHOLE WAVE LENGTHS). CONTRACTOR DETERMINES THE LENGTH OF THE LONGEST SINGLE RUN REQUIRED AND CUT ALL (16) CABLES TO THAT LENGTH. CONTRACTOR SHALL COIL ALL EXCESS SLACK IN MONITOR DETECTOR ANTENNA MDA - JUNCTION BOX AND /OR CABLE TRAY INSIDE THE BUILDING. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL CABLES, CONNECTORS ETC., AS REQUIRED.

4. ALL CONDUITS SHALL BE SUPPORTED AT A MAXIMUM OF 3'-0" BETWEEN EACH SUPPORT. IN ADDITION, CONDUITS SHALL BE SECURELY FASTENED WITHIN 1'-0" OF EACH OUTLET BOX, JUNCTION BOX. DEVICE BOX, CONDUIT BODY OR OTHER CONDUIT TERMINATIONS. ALL NON-METALLIC CONDUIT JOINTS SHALL BE GLUED TOGETHER.

5. ALL SUPPORTS AND HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE HOT DIPPED GALVANIZED STEEL OR STAINLESS STEEL.

6. REMOVE ALL MONITOR DETECTOR ANTENNA, CONDUCTORS AND ELECTRICAL ASSOCIATED APPURTENANCE. ALL CONDUCTOR AND CONDUIT SHALL BE DISPOSED OF AT THE EXPENSE OF THE CONTRACTOR.

7. REINSTALL VOR MONITOR DETECTOR ANTENNAS WHEN STRUCTURAL INSTALLATION IS COMPLETE COORDINATION AMONG THE DIFFERENT DISCIPLINES IS THE RESPONSIBILITY OF THE CONTRACTOR SEE A001.

8. OWNER WILL REINSTALL/REBUILD RF BRIDGE AND TRANSMISSION LINE CABLES.

LEGEND

JB - JUNCTION BOX

MDA - MONITOR DETECTOR ANTENNA

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
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VOR
COUNTERPOISE STRUCTURE REFURBISHMENT VOR MONITOR DETECTOR ANTENNAS - LAYOUT

SAINT DAVID BERMUDA INT'L AIRPORT BM

REVIEWED BY	SUBMITTED BY	APPROVED BY
	Mark Johnston	Manoj Bhatia
	PROJECT ENGINEER	MGR: ENGINEERING - CENTER A
DESIGNED MJ	ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE	DATE 07/17/2012 JCN 1201875
DRAWN LMC		DRAWING NO BDA-1201875-E002 REV
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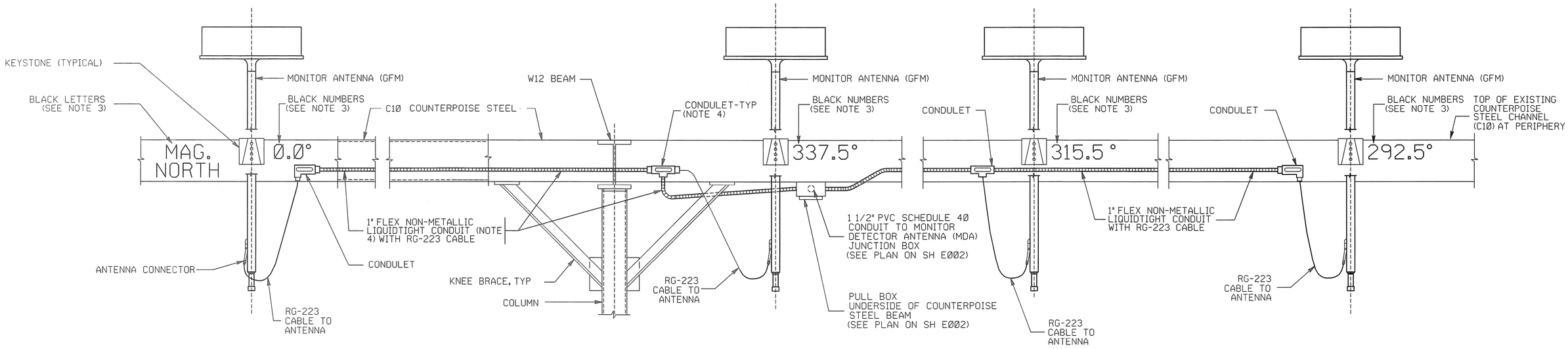
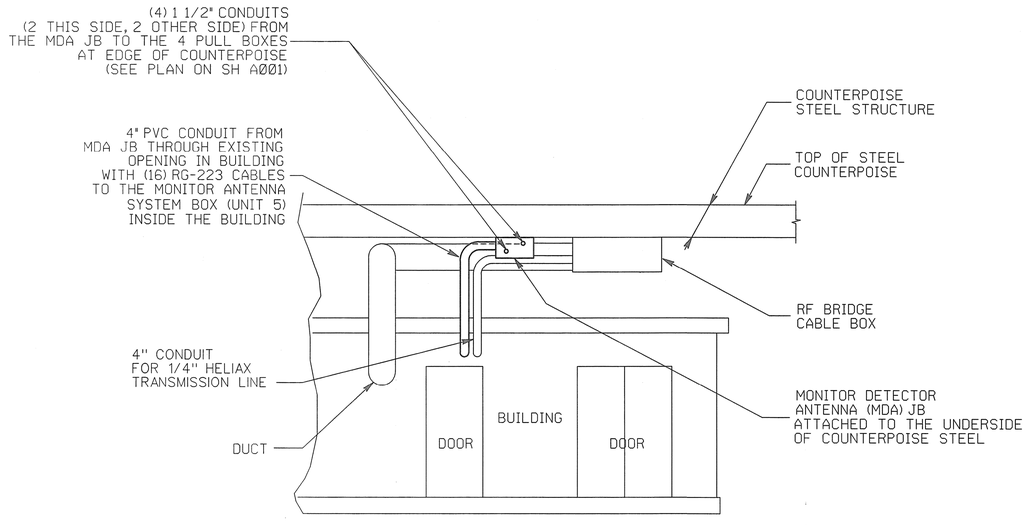


1 E003 ELEVATION

1 Ø 1 2

1" = 1'-Ø"



2 E003 ELEVATION VIEW

4 Ø 4 8

1/4" = 1'-Ø"

NOTES

1. FOR ADDITIONAL INFORMATION AND NOTES SEE E002.
2. MONITORS AND BRACKETS SHALL BE REINSTALLED PER ORIGINAL INSTALLATION AND IN ORIGINAL LOCATIONS.
3. ANGULAR LOCATION SHALL BE MARKED AT EACH KEYSTONE, STARTING AT "MAGNETIC NORTH" KEYSTONE LOCATION WITH 0.0 AND GOING CLOCKWISE (ie 22.5 , 45 , ETC). LETTERS/NUMBERS ARE 3" HIGH (APPROX) PAINTED WITH BLACK PAINT.
4. INSTALL 1" FLEX NON-METALLIC LIQUIDTIGHT CONDUIT, PULL BOXES & CONDULETS ATTACHED TO COUNTERPOISE STEEL WITH STAINLESS STEEL HARDWARE (1/4" DIA BOLTS) AND HOT DIPPED GALVANIZED CLAMPS. DRILLED HOLES REPAIED AS PER TECH SPECIFICATIONS SECTION 5-2. (SEE NOTE 4 ON E002)
5. INSTALL ALL NEW CONDUIT, CONDULETS, PULL BOXES, MDA, JB'S AND CABLE.
6. REFURBISH MONITOR BRACKETS.
7. RF BRIDGE AND TRANSMISSION LINES ARE 1/4" HELIAX CABLE WITH FSJ1 TED CONNECTIONS. 1/4" HELIAX LINES INSTALLED BY OWNER.

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
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ATO - TECHNICAL OPERATIONS **EASTERN SERVICE AREA**

VOR

COUNTERPOISE STRUCTURE REFURBISHMENT VOR MONITOR DETECTOR ANTENNAS - DETAILS

SAINT DAVID BERMUDA INT'L AIRPORT BM

REVIEWED BY	SUBMITTED BY Mark Johnston	APPROVED BY Manoj Bhatia	
	PROJECT ENGINEER	MGR: ENGINEERING - CENTER A	
	DESIGNED MJ	ISSUED BY ENGINEERING SERVICES INFRASTRUCTURE	DATE 07/17/2012 JCN 1201875
	DRAWN LMC		DRAWING NO BDA-1201875-E003 REV
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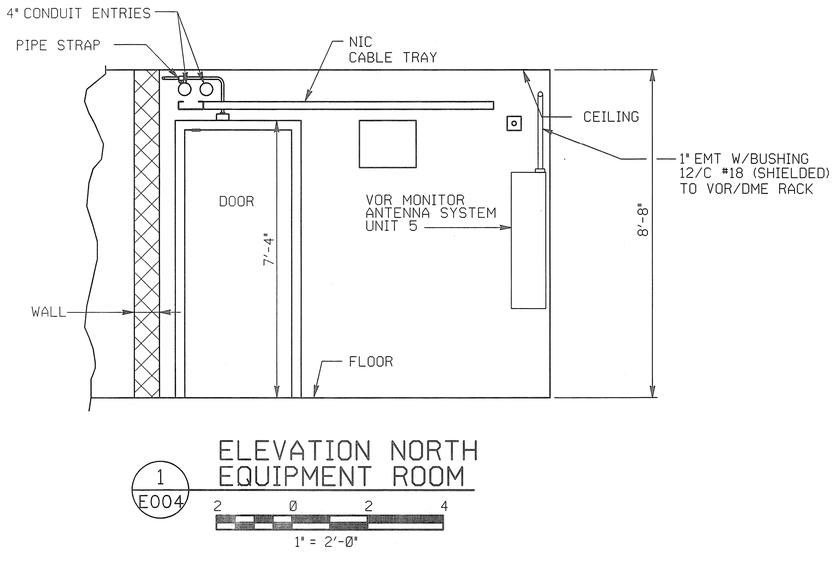


1 E004

ELEVATION NORTH EQUIPMENT ROOM

2 Ø 2 4

1" = 2'-Ø"

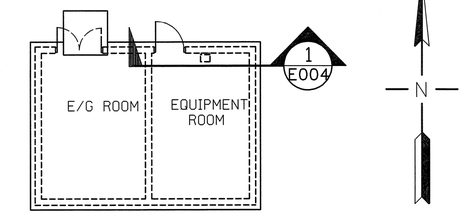
NOTES

1. DRAWING PROVIDED FOR GENERAL INFORMATION.
2. CONTRACTOR SHALL PULL CABLE IN CONDUIT TO AND FROM PANEL "C" FOR OBSTRUCTION LIGHT.
3. ALL RG-223 AND HELIAX INSTALLATION AND TERMINATIONS SHALL BE BY OTHERS.

LEGEND

BC - BARE COPPER

NIC - NOT IN CONTRACT



5 E004

EQUIPMENT BUILDING KEY PLAN

NOT TO SCALE

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS **EASTERN SERVICE AREA**

VOR

COUNTERPOISE STRUCTURE REFURBISHMENT EQUIPMENT BUILDING WALL SECTIONS

SAINT DAVID BERMUDA INT'L AIRPORT BM

REVIEWED BY	SUBMITTED BY	APPROVED BY
	Mark Johnston PROJECT ENGINEER	Manoj Bhatia MGR: ENGINEERING - CENTER A
	DESIGNED MJ DRAWN LMC CHECKED	ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE
		DATE 07/17/2012 JCN 1201875 DRAWING NO BDA-1201875-E004 REV

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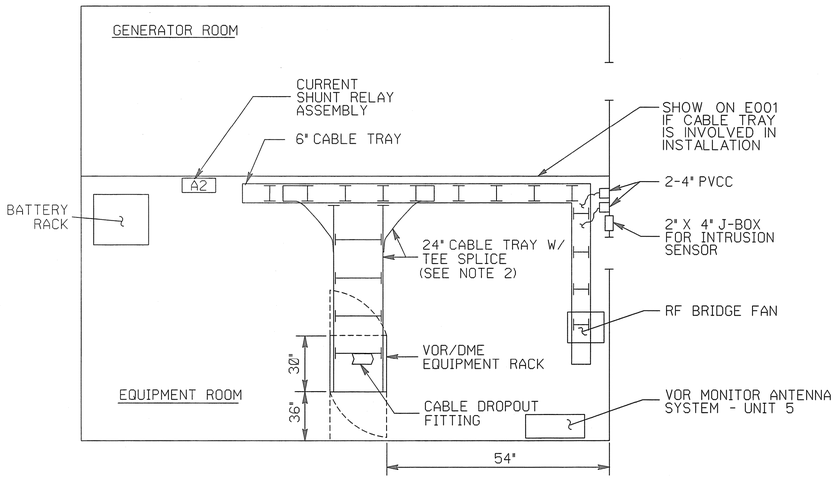

4 / E005 CABLE TRAY AND EQUIPMENT RACK LAYOUT (LOCATION: EQUIPMENT ROOM) - NIC

NOT TO SCALE

NOTES

1. LOCKOUT AND TAGOUT POWER BEFORE BEGINNING DEMOLITION.
2. REMOVE LOCKS AND TAGS AFTER COMPLETION OF ALL WORK.

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
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VOR

COUNTERPOISE STRUCTURE REFURBISHMENT EQUIPMENT BUILDING DETAILS

SAINT DAVID — BERMUDA INT'L AIRPORT — BM

REVIEWED BY	SUBMITTED BY	APPROVED BY
	Mark Johnston	Manoj Bhatia
	PROJECT ENGINEER	MGR: ENGINEERING - CENTER A
DESIGNED MJ / DRAWN LMC / CHECKED	ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE	DATE 07/17/2012 · JCN 1201875 · DRAWING NO BDA-1201875-E005 · REV

ISSUED FOR: CONSTRUCTION

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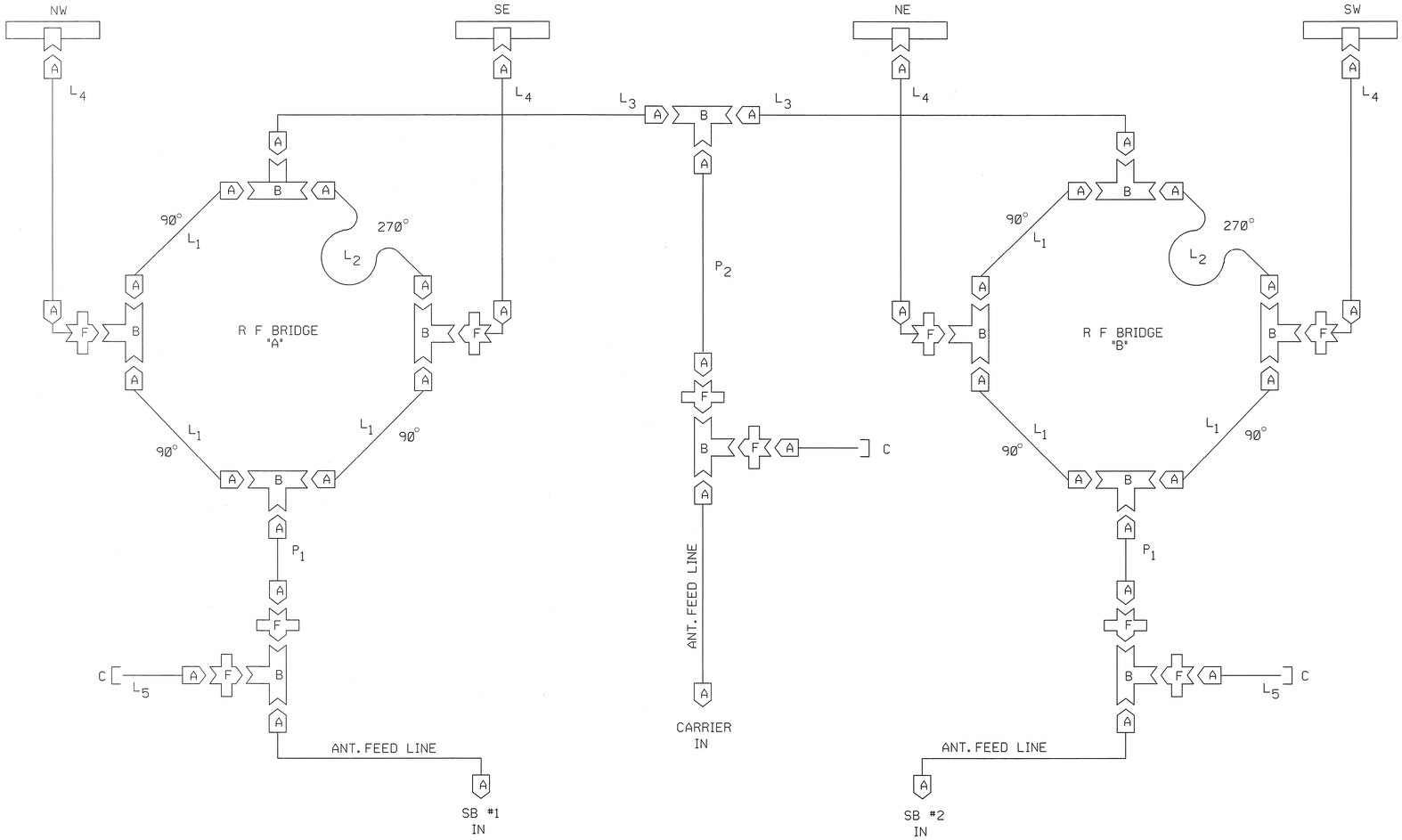

NOTES

1. REPLACE ALL RF LINES WITH 1/4" HELIAX. (BY OWNER)
2. LINE LENGTHS TO BE DETERMINED.
3. DRAWING PROVIDED FOR CONTRACTOR INFORMATION.

MATERIALS TO BE REUSED

ITEM	DESCRIPTION
A	PLUG, TYPE UG-1185/U
B	TEE, TYPE UG-28A/U
C	INDUSTRIAL PRODUTS CORP. END SEAL
LS	STUBS
P1, 2	POSITIONING PIECES
F	PHASING ADAPTER (LINE PHASERS)

REV	APPROVED DATE	DESCRIPTION	JCN	REDLINE DATE	APVD

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ATO - TECHNICAL OPERATIONS **EASTERN SERVICE AREA**

VOR
COUNTERPOISE STRUCTURE REFURBISHMENT
RF BRIDGE PLAN

SAINT DAVID — BERMUDA INT'L AIRPORT — BM

REVIEWED BY	SUBMITTED BY: Mark Johnston, PROJECT ENGINEER	APPROVED BY: Manoj Bhatia, MGR: ENGINEERING - CENTER A	
DESIGNED: MJ	ISSUED BY: ENGINEERING SERVICES INFRASTRUCTURE	DATE: 07/17/2012	JCN: 1201875
DRAWN: LMC		DRAWING NO: BDA-1201875-E006	REV
CHECKED			

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